

CLAIMS

1. A method for driving a display panel and peripheral devices associated with the display panel through common data lines, comprising:

identifying a non-display period for the display panel;

causing a peripheral device interface corresponding to one of the peripheral devices to transmit control data over a control line associated with the peripheral device;

selecting data associated with the one of the peripheral devices for transmission through the common data lines during the non-display period; and

maintaining an image quality for an image being displayed on the display panel while the common data lines are being used for communicating with the one of the peripheral devices.

2. The method of claim 1, wherein the method operation of identifying a non-display period for the display panel includes,

monitoring a display panel active signal.

3. The method of claim 1, wherein the method operation of causing a peripheral device interface corresponding to one of the peripheral devices to transmit control data over a control line associated with the peripheral device includes,

transmitting an enable signal to the peripheral device interface

4. The method of claim 3, further comprising:

transmitting a select signal configured to select data originating from the peripheral device interface.

5. The method of claim 1, wherein after selecting data associated with the one of the peripheral devices for transmission through the common data lines during the non-display period, the method includes,

selecting the data associated with the one of the peripheral devices rather than data associated with the display panel.

6. The method of claim 1, wherein the method operation of maintaining an image quality for an image being displayed on the display panel while the common data lines are being used for communicating with the one of the peripheral devices includes,

accessing an internal random access memory to maintain the image quality.

7. A graphics controller, comprising:

a memory region configured to store image data for display on a display panel in communication with the graphics controller;

interface circuitry modules where each of the interface circuitry modules is configured to transmit data from the graphics controller over a set of shared data lines;

selection circuitry configured to select data from one of the interface circuitry modules for transmission over the set of shared data lines; and

line sharing circuitry configured to inform each of the interface circuitry modules to transmit control data, the line sharing circuitry further configured to generate select signals for the selection circuitry, the select signals enabling the selection circuitry to select the data from one of the interface circuitry modules.

8. The graphics controller of claim 7, wherein the selection circuitry includes a first multiplexer and a second multiplexer.

9. The graphics controller of claim 8, wherein the first multiplexer is configured to select data from one of a plurality of peripheral device modules, the second multiplexer configured to select data from one of a display panel interface module and the data from the one of the plurality of peripheral device modules.

10. The graphics controller of claim 7, wherein the interface circuitry modules are selected from the group consisting of a display panel controller interface, a camera controller interface, and an external memory interface.

11. The graphics controller of claim 7, wherein the line sharing circuitry is further configured to assert a display panel select signal during an active display period.

12. The graphics controller of claim 7, wherein the line sharing circuitry is further configured to assert a peripheral device select signal during a non-display period.

13. The graphics controller of claim 7, wherein the interface circuitry modules include a peripheral device interface circuitry module, the peripheral device interface circuitry module configured to read data from a peripheral device wherein the data from the peripheral device is transmitted over the set of shared data lines.

14. A device, comprising:

central processing unit (CPU);

a display panel;

a peripheral component; and

a graphics controller in communication with the CPU, the graphics controller configured to drive the display panel and the peripheral component over a shared set of data lines, the graphics controller including circuitry configured to select one of display data and peripheral component data for transmission over the shared set of data lines based upon a display mode signal associated with the display panel.

15. The device of claim 14, wherein a number of shared data lines is equal to eighteen.

16. The device of claim 14, wherein the shared set of data lines are bi-directional.

17. The device of claim 14, wherein the peripheral component is one of a digital camera and an external memory.

18. The device of claim 14, wherein the device is a cellular phone having a first section including the CPU and the graphics controller and a second section including the display panel and the peripheral component, wherein the shared set of data lines enable communication between first section components and second section components.

19. The device of claim 14, wherein the circuitry configured to select one of display data and peripheral device data for transmission over the shared set of data lines based upon a display mode signal associated with the display panel includes,

interface circuitry modules where each of the interface circuitry modules is configured to transmit data from the graphics controller over the shared set of data lines;

selection circuitry configured to select data from one of the interface circuitry modules for transmission over the shared set of data lines; and

line sharing circuitry configured to inform each of the interface circuitry modules to transmit control data, the line sharing circuitry further configured to generate select signals for the selection circuitry, the select signals enabling the selection circuitry to select the data from one of the interface circuitry modules.

20. The device of claim 14, wherein the display panel includes random access memory (RAM).